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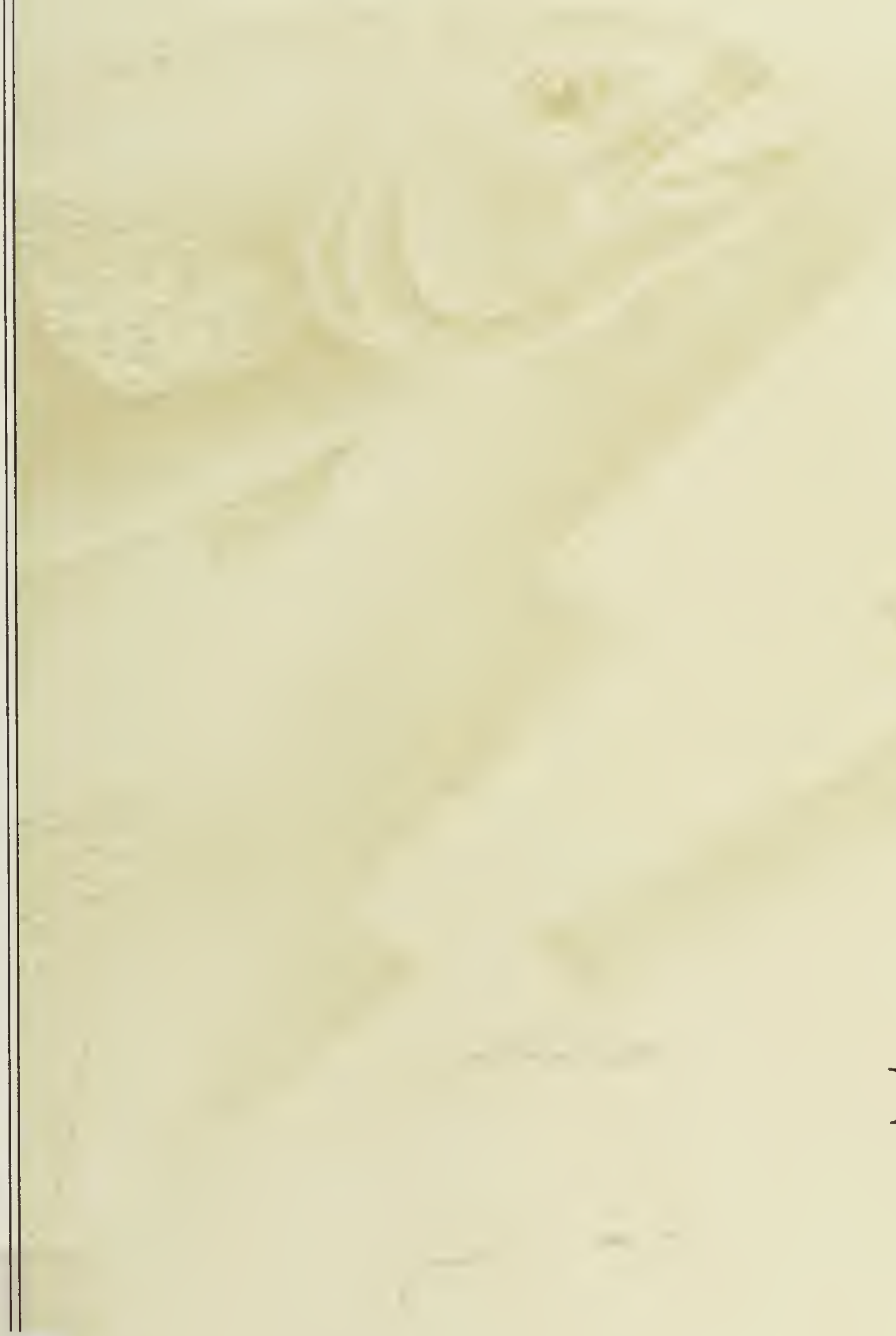

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TENTH ANNUAL REPORT
# of the
Pacific Northwest Electric Power
and
Conservation Planning Council

Submitted to the
Committee on Energy and Natural Resources
United States Senate
Committee on Energy and Commerce
United States House of Representatives
and the Committee on Interior and Insular Affairs
United States House of Representatives

OCTOBER 1, 1989, THROUGH SEPTEMBER 30, 1990

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October 1990

To the Citizens of the Pacific Northwest:

We are pleased to bring you this 10th Annual Report of the Pacific Northwest Electric Power and Conservation Planning Council. It marks an important anniversary for us. In December, it will have been 10 years since the U.S. Congress passed the Pacific Northwest Electric Power Planning and Conservation Act—Public Law 96-501.

That Act authorized the states of Idaho, Montana, Oregon and Washington to begin an innovative arrangement that would allow them to work together to plan for and protect certain resources shared by our states. After enabling legislation was passed by each state, the Council was formed the following April.

With our first decade all but behind us, we have taken this opportunity to review some of the work done in the past 10 years as well as reviewing the Council's work for the year just past.

Ten years have served to educate us, to help us build cooperative relationships with other agencies and with the people of the region, and to map out and implement many new approaches to regional problems. With that background, we feel we are stronger and more committed than ever to serving the people of the Pacific Northwest.

The new decade of the ‘90s brings our region greater challenges. In the ’90s, we are discovering that even as awesome a resource as the Columbia River has its limits. We are having to rethink and rebalance our priorities. During the ’40s, ’50s and ’60s, the Columbia was seen as an underused resource that could be brought into service to provide wealth and security. In a decade where we acknowledge that there are limits, the concept of economic security stretches to include a healthy environment. We can’t take that environment for granted any longer. Our challenges are taking on a new sense of urgency. Nonetheless, we look forward to meeting them with the same enthusiasm that we began with nearly 10 years ago.

> “In the ’90s, we are discovering that even as awesome a resource as the Columbia River has its limits. Our challenges are taking on a new sense of urgency.”
>
> —Tom Trulove, chairman

Sincerely,

Tom Trulove
Chairman

INTRODUCTION

Almost 10 years have passed since the Pacific Northwest embarked on a most extraordinary mission. In December, the region will mark the 10th anniversary of one of the most innovative regional bills ever passed by Congress—the Pacific Northwest Electric Power Planning and Conservation Act of 1980. In April 1991, the Pacific Northwest Electric Power and Conservation Planning Council,[1] formed as a result of that Act, will complete its first decade in business.

It is a time to look back and a time to look ahead. It is a time to ask what has been accomplished and a time to ask what challenges lie ahead. The answer in both cases is "a great deal."

Ten years ago, the Northwest electrical energy community was reeling from a number of enormous problems. After 20 years of economic boom, the region was in the midst of a devastating recession. Demand for energy that had surged in the two previous decades was now entering a period of stagnation that would last for six more years.

Yet because of the previous boom, the region had undertaken a huge thermal power plant building program that left the Northwest with coal plants and uncompleted nuclear projects that it didn't need. The costs of this building program sent wholesale electricity rates skyrocketing at a time when the economy was on its knees.

At the same time, another important Northwest resource was also in jeopardy. The Columbia River Basin's great runs of salmon and steelhead had been reduced to alarming lows. While definitive studies had yet to be made, there was no doubt that construction and operation of hydropower dams had played a major role in the decline of these species.

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[1] The full names of the Act and of the Council are commonly shortened to the Northwest Power Act and the Northwest Power Planning Council.

In the simplest terms, the Northwest Power Act gave the region a mechanism to address these problems. It gave the region a forum, outside the courts, where disparate interests could come together to balance competing resource uses. Because it was also an open and public forum, it gave the citizens of the region an opportunity to become involved in shaping resource decisions that would affect them.

Reviewing the Past Decade

Within two years of its inception, the Council produced both a comprehensive fish and wildlife program and an electrical power plan. Because developments were moving rapidly in both arenas, the Council has revised and updated both of these documents through lengthy public processes.

The first Columbia River Basin Fish and Wildlife Program was completed in 1982. It was opened for complete public review and revised in 1984 and 1987. In addition, a major study describing salmon and steelhead losses and the role hydropower played in their downturn was completed in 1986 and amended into the program. The program currently is open for amendments related to salmon and steelhead production.

The Northwest Power Plan was completed in 1983, and subsequently completely reviewed and revised in 1986. In 1989, the Council published a supplement updating portions of the plan, including revised forecasts of the region's future energy needs. The Council is in the process of producing a new power plan.

Both the fish and wildlife program and the power plan have led to landmark developments in the last decade. These are some of the most significant ones. Most are discussed in greater depth in succeeding sections.

> "The next decade will be a test of how well the energy, environmental concerns, and fish and wildlife plans of the Council can be implemented. I expect the Council to be a leader in this effort."
>
> —Jim Goller, vice chairman

Major Fish and Wildlife Activities

- Facilities to help migrating fish pass dams safely are completed or in design or construction stages at all federal dams on the mainstem of the Columbia and Snake rivers as well as at publicly and privately owned dams on numerous tributaries.

- In a process called the "water budget," water is stored at the headwaters of the Columbia and Snake rivers and released each spring to aid downstream fish migration.

- Columbia Basin fish and wildlife agencies, Indian tribes and utilities, along with the Bonneville Power Administration, signed a 10–year agreement setting levels for spilling water at federal dams to aid fish passage.

- Approximately 15 percent of Northwest stream reaches (44,000 miles) have been designated protected from hydropower development because of their important fish or wildlife habitat. Developers now have clear guidance on where development can occur.

- Dozens of projects have been completed throughout the basin to increase both natural and hatchery fish production. These projects address both seagoing and non–seagoing fish.

- Wildlife mitigation projects have been started in Montana and are being developed elsewhere to compensate for habitat lost to hydropower development.

Major Power Planning Activities

- The Northwest has developed an innovative model for least–cost energy planning that minimizes both risk and cost when planning for uncertain future energy needs. This integrated resource planning strategy has been studied, copied or adapted by other states and by a number of other nations.

- Conservation as a resource is no longer a theory. It's a fact of life in the Northwest, with *every* utility now participating in conservation programs. Since 1978, the region has purchased 350 average megawatts of conservation at a cost of $805 million, a savings of $1.3 billion over the cost of acquiring equivalent energy from new coal–fired plants.

- The state of Washington has adopted the Council's model conservation standards into its building codes. Oregon's current code is nearly half way to the standards, and the state is considering administrative changes that would bring it into full conformance with the standards in 1992. Montana has upgraded its building codes through administrative changes, and Idaho passed energy code legislation this year that will achieve more than half the savings of the Council's model conservation standards.

- Utility commissions in Idaho, Oregon and Washington have mandated least–cost plans for investor–owned utilities, and the Montana Power Company is voluntarily developing an integrated least–cost planning process to address its energy resource needs.

- Electricity rates have stabilized. In the past decade, maintenance costs for two uncompleted nuclear plants have dropped from an anticipated $32 million per plant to an actual cost of $6 million. The region's aluminum industry has rebounded, thanks in part to Bonneville's rate treatment and conservation/modernization program.

Looking Ahead to the Next Decade

As the Council looks ahead, it sees challenges every bit as great as those faced 10 years ago.

Fish runs had begun to make a comeback through much of the 1980s, raising hopes that a long-term decline had finally been reversed. Runs appear to have benefitted from increased hatchery production, the transporting of certain stocks in barges, improvements in bypass facilities and flows at some dams, reductions in harvest and a variety of other projects.

But the last two years have seen serious setbacks in runs in some areas of the Columbia Basin, for reasons that are not yet clear.

A number of conservation and professional groups and the Shoshone-Bannock tribe of Idaho have filed petitions seeking endangered species status for Snake River sockeye, spring, summer and fall chinook and lower Columbia River coho. A declaration of endangered species status could have profound impacts on the operation and output of the hydropower system, as well as addressing fishery, land and water management practices. The governors of the four Northwest states, Indian tribes, federal agencies and other interested parties are looking at ways to build a management plan that could be implemented quickly.

At the same time, the Council is moving ahead with a system planning effort. Each of 31 subbasins—tributary basins within the Columbia system—has been exhaustively analyzed to determine its potential for increasing fish production. These individual subbasin plans were then folded into an overall system plan that provides the first comprehensive and integrated approach to increasing salmon and steelhead populations. A draft of this system plan was released for public review this summer.

On the power planning side, the Council faces another enormous challenge. For the first time since the Council was created, the Northwest needs new power resources in the near future. During the previous two plans, the region had a substantial electricity surplus. Those plans focused on acquiring only resources that would otherwise be lost opportunities, and on confirming and building the capability to bring on other resources in anticipation of the time when they would be needed.

The surplus gave the Council and the region a grace period so that it could learn how to deal with uncertainty, manage risk, and evaluate and select resources in a manner that would be the least costly to the regional electrical power system.

Now the Council must develop a plan that can guide the region in developing new resources almost immediately. The Council must provide a fair hearing to all interests and come up with a power plan that equitably balances both financial and environmental costs and related risks, without endangering a reliable power supply.

No other agency in the region—nor in the country—has the clearly defined dual role of balancing fish and wildlife and power interests on this scale. Certainly there have been success stories in the last decade. But the great Columbia River system, which has brought the Northwest immeasurable riches, is a finite resource. The competing demands made on it are increasing. For this reason, despite irrefutable accomplishments, there's still an enormous task ahead. ■

FISH AND WILDLIFE

Status of Columbia River Basin Runs

This year marks the 10th anniversary of the signing of the Northwest Power Act and the eighth anniversary of the Columbia River Basin Fish and Wildlife Program. Over the past decade, there have been marked improvements in some Columbia River salmon and steelhead runs, particularly those heavily augmented with hatchery fish. Chinook in the lower and mid–Columbia (naturally spawning fall chinook in the Hanford Reach), and in the Willamette, plus steelhead in most reaches of the basin have flourished. However, a recent study by the National Marine Fisheries Service and Oregon Department of Fish and Wildlife suggests that some native, non–hatchery stocks continue to decline.

> "The people of this region want to save the Columbia River salmon runs. They also want to minimize the effect saving the salmon could have on power generation, irrigation and other uses of the river. But the river is a finite resource. Balancing its many purposes will involve some tough choices."
>
> —Ted Bottiger, Washington

The status of the basin's runs was the first topic discussed in this year's Salmon and Steelhead Round Table—a gathering of fisheries managers who reviewed the region's progress toward increasing fish runs. "As a whole," explained Jim Martin, fisheries chief at the Oregon Department of Fish and Wildlife, "we have slightly more fish [than in 1980]." The Oregon department figured that runs have risen from 2.5 million to about 2.8 million over the past decade.

But salmon and steelhead runs are cyclical, and this past year many runs had backed down from record returns in 1987 and 1988. Those two years were among the driest in recent history. Fisheries biologists suggest that, while adult migrants were plentiful, the low water levels in 1987 and 1988 made survival more precarious than usual for young fish heading down to the sea from the basin's higher reaches. This may partly account for the ominous declines in Snake River runs. Diminished runs in the lower basin more likely were caused by poor food availability in the ocean, say salmon experts.

The unstable condition of Snake River runs has become a national issue this year. To protect these remnant runs of sockeye and chinook, the Shoshone–Bannock Tribes of Idaho, Oregon Trout (an organization that promotes wild fish protection), the American Fisheries Society and several Northwest environmental groups filed petitions with the National Marine Fisheries Service to list the runs as "threatened" or "endangered" under the Endangered Species Act. These petitions also state that the runs at risk include lower Columbia River native coho.

The National Marine Fisheries Service now has approximately two years to review the status of these particular stocks and determine whether to list them. If any of the runs are declared to be "threatened," all federal agencies would be called upon to use their authorities to conserve the species. These agencies must consult with the National Marine Fisheries Service to make certain they are not jeopardizing either the threatened species or its habitat by their actions. The Service also must prepare a recovery plan for the named species.

If the designation goes beyond "threatened" to "endangered," all of these measures would apply, but a further restriction that the species could not be "taken" by anyone also would go into effect automatically. Such a listing could affect operations at the hydroelectric projects, all fishing and related industries, as well as irrigation and recreation use of Columbia River water.

Oregon Senator Mark Hatfield, Oregon Representative Ron Wyden and Washington Representative Jolene Unsoeld have called for joint congressional oversight hearings on the petitions. Senator Hatfield also has asked the Council to facilitate a process among the region's governors, federal agencies, Indian tribes and others to develop a "pre–decisional" management plan that would address issues raised by the petitions.

In addition, the Columbia Basin Fish and Wildlife Authority[2] has proffered a proposal to increase flows substantially in the Columbia and Snake rivers as a means of improving juvenile fish survival during

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2. The Authority is an umbrella group representing seven state and federal fish and wildlife agencies and 13 Indian tribes.

the spring and early summer migrations. The Authority expressed concern that inadequate Snake River flows and an inability to rely more heavily on the upper Columbia to augment lower river flows have reduced fish survival.

Both the endangered species issue and the proposal to provide increased flows for fish are expected to be addressed in a time frame compatible with the Council's system planning process, which is described further in this section.

Mainstem Passage

The Columbia River Basin Fish and Wildlife Program works to improve juvenile fish survival in the mainstem of the Columbia and Snake rivers in four ways: 1) screens to deflect young fish from turbine intakes and bypass channels to route fish safely past dams are called for at all mainstem dams; 2) until these are in place and operational, as many fish as possible are passed over dams through spillways; 3) a water budget has been instituted to increase flows between dams during the spring migration; and 4) certain stocks are collected at upriver dams and transported downstream in barges and trucks to be released below Bonneville Dam.

Bypass Facilities

In 1990, the Pacific Northwest obtained a new ally in its attempts to improve salmon and steelhead survival in the mainstem of the Columbia. Funding for bypass improvements—channels through dams and underwater screens to divert fish from turbines—was incorporated into the president's budget for the first time in many years and approved by both the House and the Senate.

In the past, the Council met stiff resistance from the U.S. Army Corps of Engineers and the Office of Management and Budget, which opposed screening several of the dams. The unified support of the agencies, tribes, utilities, fisheries groups and the Northwest congressional delegation has helped ensure that these projects can move forward.

Once installed, these bypass systems could cut in half the number of fish killed at each dam. In the current system, where fish may pass as many as nine dams before reaching the sea, more than half of the young migrants can be killed by turbines.

Some of the major dams still have no screens or bypass channels. Others have systems that could and should be upgraded. Bonneville, John Day, McNary, Little Goose and Lower Granite dams all have bypass systems or systems that are in the process of being developed or improved. Lower Monumental, Ice Harbor and The Dalles dams are unscreened.

On the mid-Columbia, Wells Dam has a unique design that enables fish to pass safely, and operators at Priest Rapids, Wanapum, Rocky Reach and Rock Island dams are in the process of developing and testing prototype screening and bypass systems at their projects.

Spill Plan

Until permanent bypass systems are in place and functioning properly at all mainstem dams in the path of migrating fish, the Council has called on project operators to spill water to carry fish away from dam turbines. Because the fish-laden water is dumped out dam spillways rather than run through turbines to generate electricity, spills are costly in terms of lost power revenues. Depending on power prices and customer demand, spilling water costs the Northwest about $15 million each year. Permanent fish passage improvements are expected to cost $161 million for all the dams.

In 1989, after 18 months of negotiations, a long-term spill plan was developed by state and federal fish and wildlife agencies, basin Indian tribes, utilities, the Bonneville Power Administration and the Council. It calls for specific spill levels to carry juvenile fish to the sea past Lower Monumental, Ice Harbor, John Day and The Dalles dams—all operated by the Corps of Engineers. The Corps has agreed to comply with the spill agreement on a year-to-year basis. In its first two years, 1989 and 1990, the spill agreement was implemented by the Corps.

Water Budget

The third aspect of the fish and wildlife program's mainstem passage strategy is the water budget—a specific amount of water that is made up of natural runoff and releases from upriver dams on the Columbia and Snake rivers to help fish move rapidly through the system. The water budget is essential, because the fish are undergoing an adaptation from freshwater to saltwater environments. Unless they reach saltwater by the time their bodies have completed the transformation, many of them die.

In the past, the spring runoff was held in the dams to be used for power generation later in the year. With the water budget, part of the spring runoff is released when the majority of the young salmon and steelhead are migrating out of the basin. This speeds the fish through the system, helping them make the trip in the correct amount of time and protecting them from long delays that also expose them to predators, warmer water and diseases.

While the water budget on the Columbia River has been provided in recent years, the fisheries agencies and tribes urge that more water should be released to increase lower river flows.

The water budget on the Snake River has been supplied largely from natural flows rather than from storage dams. Only about one-third of the Snake River water budget has been provided from storage in that basin. In recent low-flow years, adequate water for fish has not always been available.

This year, in light of renewed concerns about the status of Snake River sockeye and chinook, the water budget on the Snake River has received much attention. Fisheries managers have argued that flows in the Snake have not been sufficient to help move young fish quickly and safely out of the basin.

The Council is ready to consider proposals to improve smolt survival in this important leg of the system. The flow proposal developed by the Columbia Basin Fish and Wildlife Authority focuses particular attention on lower Columbia River flows and the Snake River. The Council has urged the Authority to provide better documentation of the biological benefits expected from increased flows.

Salmon and Steelhead Transportation

The fourth aspect of the effort to improve fish survival during their downstream migration is the Corps of Engineers' fish transportation program. In 1989, the Corps completed work on two new barges. With the new barges and improved fish handling facilities, the Corps this year transported a record 22 million young steelhead and chinook from the upper reaches of the Snake and Columbia rivers, to be released below Bonneville Dam.

Salmon and Steelhead Production

Subbasin and System Planning

In 1987, a process for evaluating the salmon and steelhead production potential of 31 major subbasins (tributary watersheds) of the Columbia River Basin was amended into the fish and wildlife program. The goal of this elaborate planning effort is to determine where salmon and steelhead can be produced, in what numbers and by what means. The Council has explicitly said that increases in runs should not be pursued to the detriment of genetic resources. Because each watershed presents particular problems and opportunities, the planning has relied on local experts and advisory teams to assemble the details for each area.

Last year, draft plans for 22 subbasins above Bonneville Dam were completed and circulated for public review. In early 1990, the remaining lower basin plans were released for comment. In both cases, comment was extensive and useful.

The Columbia Basin Fish and Wildlife Authority, which has been coordinating the planning process throughout the Columbia River Basin, incorporated comments and wove the subbasin plans into a draft basinwide plan. This basinwide or system plan covers each drainage, plus factors that affect the total basin, such as ocean and inriver harvest and mainstem survival. The draft system plan was released for public comment this summer.

Following that review and additional analysis of cost–effectiveness and genetic risk, the Council will prepare a draft document to elicit further discussion before deciding whether to amend the system plan into the fish and wildlife program. In areas where runs are especially weak, the Council has expressed willingness to expedite the amendment process so work to save those runs can be started quickly.

As part of its systemwide review, the Council is releasing a series of issue papers that looks at other fish and wildlife recovery efforts in the basin, including those by volunteers and educational institutions, as well as unresolved concerns relating specifically to this planning effort.

Yakima and Klickitat Production Projects

The Yakima River Basin in central Washington is an arid valley whose streams, nonetheless, once were among the most productive for salmon and steelhead in the region. But the Yakima Valley, with the aid of irrigation, has become more known for its fruit than for its fish. Irrigation withdrawals and diversion dams have blocked passage for migrating fish and reduced water levels, often making it difficult for returning adult salmon to pass into spawning habitat, and making it impossible for juvenile salmon to migrate successfully to the ocean.

The fish and wildlife program called for corrections at diversion dams to enable young fish to migrate safely downstream and adults to return to spawn naturally. Approximately $50 million has been spent on these improvements, and salmon and steelhead returns have risen from about 1,000 in the 1970s to a recent five–year average approaching 10,000.

In addition to improving the migratory route of the fish, the program calls for a careful experiment in which hatchery–reared salmon and steelhead will be used to enhance natural production in the basin. A series of preliminary designs for the various fish–rearing facilities is under development at this time. Because there are numerous uncertainties regarding ecological implications of this outplanting effort, the Council is proceeding experimentally, with input from geneticists from around the country.

The preliminary design for facilities in the Yakima Basin portion of this project is being reviewed by the Council. The Council has called on project managers to develop a scaled-down alternative that might reduce genetic risks in this experiment.

A design for the adjacent Klickitat Basin is expected to be completed in 1992. The combined projects should produce between 76,000 and 175,000 new adult salmon and steelhead, while providing invaluable information regarding the use of hatcheries to increase natural production. Fish from the Yakima and Klickitat facilities will be released into wild habitat to see if they return to their release streams when they are ready to spawn rather than to the hatcheries, and whether they can reproduce successfully.

Umatilla Hatchery

Like the Yakima River Basin, the Umatilla River Basin's large runs of salmon and steelhead were decimated by irrigation withdrawals and the mainstem dams. A plan to recover those fish has been drawn up by the Oregon Department of Fish and Wildlife, the Confederated Tribes of the Umatilla Indian Reservation, the Bureau of Reclamation, the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, the Forest Service and the Bonneville Power Administration. The plan includes passage corrections, flow allocations and a hatchery.

Fish and Wildlife Investments (1983–1990)

Pre-fish and wildlife program fish ladders and pre-existing screens	$364 million
Lost power revenues for water budget and spill	$393 million
Fish and wildlife program projects	$213 million

This year, the Council approved the master plan for the Umatilla Production Project, the hatchery designed to reintroduce salmon and augment steelhead for the Umatilla Basin, and to test the use of oxygen supplementation to increase the number of fish produced in the hatchery. The $16-million hatchery will complement ongoing efforts to improve passage, habitat and flows in the basin.

Harvest Controls

While the Council has no direct authority over ocean or inriver harvests, it has monitored harvest management activities and receives reports on important harvest-related issues. In the eight years since the first fish and wildlife program was adopted, harvest regulation has been improved significantly by negotiation of the U.S. and Canada Pacific Salmon Interception Treaty and the settlement of the United States v. Oregon inriver harvest litigation.

High Seas Drift-Net Fishing

Japan, South Korea and Taiwan currently operate drift-net fisheries for squid in the North Pacific Ocean. Because drift nets stretch for miles, they generally haul in other varieties of sea life, including birds and marine mammals. Columbia River steelhead have been found among the creatures caught in the huge nets.

In 1989, the Council went on record opposing drift-net fishing. The Council wrote members of the Northwest congressional delegation and the departments of State and Commerce, requesting that timely information regarding the drift-net fishery be released for public review as expeditiously as possible; that agreements to limit or eliminate the fishery be negotiated by affected nations; that more funds be allocated to monitor this fishery; and that funds already allocated to the National Marine Fisheries Service be used for that purpose.

In May, the U.S. Senate Commerce Committee and the full House approved a provision under the reauthorization of the Magnuson Fisheries Act to prohibit U.S. fishing vessels from using drift nets. The bill also seeks an international ban on drift-net fishing, which has been supported by a United Nations resolution.

Resident Fish

Resident fish live and migrate within the rivers, streams, reservoirs and natural lakes in the Columbia River system. Several projects and studies to improve these populations have been initiated under the Council's program. Actions to improve resident fish are particularly important to Montana, which has no anadromous fish runs. Large storage reservoirs and river fluctuations due to hydropower operations have affected spawning and rearing of various indigenous resident fish species in that state.

Based on program recommendations, Montana has initiated a number of fish-related habitat improvements. The state and the Salish and Kootenai tribes, using information developed from program measures, are producing a cooperative fisheries management plan for Flathead Lake and the river systems below Hungry Horse and Kerr dams. Another major accomplishment in 1989 was the near completion of a reservoir modeling system, which will—for the first time—analyze trade-offs between power generation and fish mitigation options.

In Idaho, program-related projects address resident fish populations in the South Fork Boise River, Lake Coeur d'Alene, the Spokane River, the Pend Oreille River and Dworshak Reservoir. These projects include release of flows for fish production, as well as research, habitat repair and fish stocking.

In addition, federal and state fishery agencies are working together to study and develop recommendations to rebuild Columbia River Basin sturgeon populations, including a genetic study of sturgeon stocks.

Substitutions

In areas where ocean migration is impossible because of dams that lack upstream and downstream bypass facilities, resident fish are being substituted for lost salmon and steelhead runs. Two areas of highest concern are above the Chief Joseph Dam on the Columbia, and above the Hells Canyon Complex on the Snake.

All program efforts to address resident fish problems above Chief Joseph Dam have been initiated. Construction of a kokanee hatchery at Galbraith Springs above Grand Coulee Dam should be completed this year. A smaller hatchery for the same area is expected to be built next year.

Above Hells Canyon, the Shoshone-Paiute Tribes of Duck Valley are compiling a resident fisheries plan, which may require a hatchery to replenish fish populations.

Resident fish habitat repair projects for the Fort Hall Bottoms area of the Shoshone-Bannock Reservation are expected to be funded by Bonneville in Fiscal Year 1992.

Wildlife

In October 1989, the Council voted to amend the fish and wildlife program to include an interim goal and related policies regarding efforts to recover wildlife habitat affected by hydropower development. This decision concluded nearly a yearlong public involvement process.

The new rule addresses wildlife at 13 dams for which assessments of wildlife losses have been completed. These loss statements are considered a starting point for analyzing the degree to which wildlife populations and habitat should be restored. They cover Grand Coulee Dam in Washington; Palisades, Anderson Ranch, Black Canyon and Albeni Falls dams in Idaho; and Cougar, Dexter, Lookout Point, Hills Creek, Foster, Green Peter, Big Cliff and Detroit dams in Oregon's Willamette Basin. A process for dealing with losses at other dams is also included in the rule.

Salmon and Steelhead Counts at Bonneville Dam (Jan. 1, 1990–Aug. 21, 1990)

Spring Chinook	96,251
Summer Chinook	28,021
Fall Chinook	82,842 [1]
Coho	1,072 [2]
Steelhead	115,177
Sockeye	49,592

[1] Run just begun; counting 5,000 to 12,000 per day.
[2] Run just begun.

Losses are estimated in "habitat units," the equivalent of one acre of high quality habitat for a given species. The number of habitat units for a given species may vary because of variations in quality at the site. Thus, wildlife plans do not call for replacing acres with acres, but rather habitat units with units of equal quality to support wildlife.

The Council's decision sets an interim goal of repairing roughly 35 percent of the total lost habitat units over the next 10 years. Once all remaining wildlife plans have been submitted, a long-term goal will be considered.

A new procedure for increasing public involvement in future mitigation plans is included in the rule. The rule also calls for an advisory committee to recommend wildlife priorities and review plans from a basinwide perspective, and for Council approval before any plans are funded by Bonneville.

Finally, the rule clarifies the Council's position that, while it will not set measures for recovering losses at non-federal projects, it will expect the Federal Energy Regulatory Commission, which licenses non-federal hydropower projects, to take the Council's entire program, including wildlife measures, into account when making licensing decisions. ■

POWER PLANNING

The Next Northwest Power Plan

Work toward a new power plan, which is expected to be adopted in the spring of 1991, was the backdrop to most of the Northwest Power Planning Council's energy efforts during the past 12 months.

Forecasting Demand for Power

A fundamental part of the Council's power planning process is forecasting how much power the four states could use over the next 20 years. This spring, the Council and the Bonneville Power Administration developed a joint interim demand forecast that indicated that, with very high economic growth, the region's need for power could climb by 13,000 megawatts by the year 2010, up from the 16,621 megawatts it consumed in 1988. A more likely medium-low to medium-high economic growth during that period would translate into a 2,400-megawatt to 7,800-megawatt increase in regional demand, compared with 1988.

The Resources

In preparation for the new power plan, the Council spent a year reviewing existing and new resources the Northwest can enlist to meet its growing energy needs. Those resources that were determined to be the least risky in terms of their availability to the region, their cost-effectiveness and their low environmental consequences will be included in the new plan's resource portfolio—a priority sequence of resources and a schedule for bringing them online.

Below is a rundown of the results of the Council's preliminary assessment of each resource's potential and its role in the region's energy future. These resources are listed in order of the priority given them by the Pacific Northwest Electric Power Planning and Conservation Act.

Using Energy Efficiently

Conservation is the most cost-effective resource for meeting the Northwest's future electrical energy needs. Each megawatt of electricity conserved is one less that needs to be generated. In February, the Council determined that 3,200 megawatts of conservation from the residential, commercial, industrial and agricultural sectors may be technically available in the next 20 years at roughly half the cost of power from new coal plants. The Council also termed another 700 megawatts of conservation "promising"—in the development stage, but not yet commercially available.

Conservation Voltage Regulation

In December, the Council decided to include 100 megawatts of conservation voltage regulation power in its analysis of resources for the portfolio. Conservation voltage regulation is a set of measures and operating strategies designed to provide electricity service at the lowest practicable voltage level. Many machines operate more effectively at these reduced voltage levels.

The Council also recommended that individual utilities review the feasibility of conservation voltage regulation in their systems. That power would cost 2 cents a kilowatt-hour or less.[3]

Transmission and Distribution Efficiency Improvements

The Council estimates that about 7.5 percent of the electricity sent on power lines in the Northwest disappears during transmission. That represents nearly 1,500 megawatts of lost energy. The region might be able to recapture a portion of those losses by using more efficient transformers, conductors, power lines and other new equipment.

> "In the coming decade, the Council and the region will test whether we can live and grow within the limits of the natural environment on which that growth and our lives ultimately depend."
>
> — Angus Duncan, Oregon

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[3] In previous work, the Council has reported resource costs in levelized *real* dollars. Unfortunately, this led to some confusion when real costs reported by the Council were compared to the current cost of electricity and to current rate levels. To address this problem, the Council is now reporting resource costs in levelized *nominal* dollars. The term "levelized" refers to the fact that each resource's costs (including capital, financing and operating) are converted to a stream of equal payments. This act of levelizing costs allows resources to be compared equitably, even when some resources have high initial construction costs and low operating costs, while other resources have the reverse situation.

Recent studies of this resource's potential led the Council to include 200 megawatts of transmission and distribution improvements at an average cost of 5 cents per kilowatt-hour in the resource portfolio analysis.

Hydropower Resources

Because the Council conducted an extensive review of new hydropower when it developed the 1989 Supplement to the 1986 Power Plan, and conditions have not changed since that review, the Council decided to use that analysis in the new power plan.

The analysis found that most environmentally acceptable large-scale hydropower sites in the region have been developed. The remaining potential includes irrigation, flood control and other non-power water projects that could be retrofit with generating equipment; the addition of generating equipment to existing hydropower projects; and some undeveloped small sites that may be suitable for hydropower development. In 1988, the Council voted to protect about 15 percent of the region's stream reaches by excluding 44,000 river miles from hydropower development because they contain valuable fish and wildlife habitat.

A reasonable estimate of remaining new hydropower potential was found to be about 410 average megawatts of energy in four cost categories, all at 6 cents per kilowatt-hour or less.

Direct Application of Renewable Resources

"Direct application of renewable resources" refers to consumers turning to renewable resources (such as solar, hydro, wind, geothermal or biomass) to lower their use of electrical energy. For the draft power plan, the Council decided to integrate the potential of these resources into the existing conservation supply curves. This will add approximately 100 megawatts of energy at an average cost of about 9 cents per kilowatt-hour to the supply curves.

Geothermal Resources

No geothermal electric power plants operate in the Northwest. But in its 1986 Power Plan, the Council—citing a four-state study by the Bonneville Power Administration—suggested that some 4,400 megawatts of geothermal-based electricity might be available in the region at lower prices than energy from new coal plants.

Since that time, the Council has convened regular meetings of a panel of outside technical experts to better assess geothermal's potential in the region. Based on the recommendations of its panel of experts, the Council decided to include 350 megawatts of geothermal power in the resource portfolio analysis and evaluate another 1,000 megawatts to determine its potential role in the plan.

Wind Resources

Even though the fuel is free, cost still was wind's biggest problem in the 1986 plan. But in the years since, wind power's costs have become more competitive. Recent staff studies led the Council to include 400 megawatts of wind resources in its resource portfolio analysis and evaluate another 1,000 megawatts at an average cost of about 14.5 cents per kilowatt-hour.

Solar Resources

Based on its staff review of current solar technologies, the Council decided to focus its analysis on a specific solar application in use in California and natural gas hybrid technologies to help meet near-term power needs and on photovoltaic technologies for the long term. The Council also is urging Bonneville and the region's utilities to continue collecting insolation data, and to conduct a feasibility study of solar applications in the region. At this time, the Council has agreed to not include solar resources in the draft resource portfolio, but to call for demonstrations of cost-effective solar technologies.

Ocean Resources

Using the motion of waves to generate energy appears to be the most promising ocean resource for this region. In fact, waves along the Pacific Coast show the best energy potential in the United States. Nonetheless, no ocean technology is cost-competitive with other resources being considered for the resource portfolio.

Cogeneration Resources

Cogeneration—the simultaneous production of electricity and heat—has been around for years. Past cogeneration facilities were custom-built for large industrial and commercial operations. The newest generation equipment, on the other hand, is modular. That lowers costs and allows small and medium-sized operations to install the equipment.

Those changes prompted the Council to include 2,200 megawatts of cogeneration power in the draft power plan at 6 cents to 12 cents a kilowatt-hour. Of this total, 480 megawatts could be fueled by biomass and 1,720 megawatts by natural gas.

Nuclear Resources

In February 1990, the Council estimated that Washington nuclear project 1 (WNP-1), located on the Hanford Reservation in southeastern Washington, and Washington nuclear project 3 (WNP-3), located near Satsop, Washington, could produce about 1,690 megawatts of electricity at 7.2 cents to 7.6 cents a kilowatt-hour. In May, the Council voted to consider the plants as potential generating resources in the same manner as other resources under consideration, but made no decision on their disposition.

Coal Resources

Past Council power plans identified new coal-fired electric plants as resources of last resort for the Northwest. The plans called for building coal-fired electric plants only after exhausting less costly alternatives.

Energy Loads
(1980–1989)
(average megawatts)

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Firm Load	16,175	16,326	15,903	15,349	16,540	16,792	16,122	16,644	17,582	18,360
Total Nonfirm Load	464	794	362	659	644	518	470	573	694	646
Total Region Load	16,639	17,120	16,265	16,008	17,184	17,310	16,592	17,217	18,276	19,006

The amount of power the region can expect to obtain from new coal plants likely will be limited by their location and size. In preparing the draft plan, the Council found that the region could build up to 4,800 megawatts of new coal generation at 7.6 cents to 9.3 cents a kilowatt-hour.

Firming Nonfirm Hydropower

The Council has been exploring ways to turn the nonfirm energy produced by the hydropower system into firm energy. Firm energy can be guaranteed and sold for a higher price than nonfirm.

The amount of nonfirm varies from year to year with the weather. If the region purchases electricity from outside the Northwest, or backs up the hydropower system with resources such as gas-fired combustion turbines, it would be able to count as firm more of the energy the hydropower dams produce. These strategies could supply 1,000 more megawatts of firm energy by the year 2000 and another 1,500 megawatts by 2010.

The fisheries agencies and tribes have expressed concerns about the potential effects on anadromous fish of hydropower firming strategies. The Council anticipates no substantial change in river flows from these strategies, and it is continuing to consult on these issues.

The Resource Mix

Once the Council identifies available resources and completes the demand forecast for the next two decades, it must find the most cost-effective mix and schedule for bringing new resources online to meet energy needs. This mix has to balance several considerations. It has to be the best, not just in terms of costs to build and operate resources, but least costly in terms of environmental impact and in terms of risk to the power system.

Last year, the Council adopted a policy for incorporating environmental costs of various resources into its decision-making. The new policy gives more weight to environmentally benign resources that are cost-effective.

The known costs of meeting existing environmental regulations already are included in cost estimates of new resources. Estimates of other costs from proven methods for reducing environmental problems (such as emissions from coal plants) also are considered. In addition, key environmental impacts from each resource are compiled. All of these costs and impacts are evaluated and can influence the relative position of resources in the regional priority stack. Resources with fewer environmental consequences could be given priority over or displace other less expensive resources.

The Action Plan

The Action Plan, by far the most critical component of the power plan, will tell the region what it needs to do right now and in the next five years to meet immediate resource needs and begin preparing for future needs.

The Draft Plan

The Council expects to release for public review a draft of the entire new power plan later this year. Comment on this draft plan will be taken over an extended period, and public hearings will be held in each Northwest state. These comments will then be integrated into the final plan.

Other Activities during the Year

Significant strides were made this year in implementing the actions and ideas called for in previous power plans, particularly in the area of conservation.

The Model Conservation Standards

The Council developed model conservation standards in 1983, at the behest of the Northwest Power Act. All of the Northwest's utilities now promote efficiency through practical programs and incentives. In addition, approximately 120 local governments throughout the Northwest have adopted the standards as part of their building codes, and, in February, Washington became the first state in the Northwest to adopt the full model conservation standards for residential construction.

Idaho also recently adopted a statewide energy code that will improve building practices substantially. After the code takes effect on January 1, 1991, Idaho utilities will be prohibited from serving new homes that have not obtained permits guaranteeing compliance with the new code.

The state of Oregon amends its statewide building code every three years and is considering the model conservation standards for 1992.

In 1989, Montana used an administrative procedure to adopt a more energy–efficient residential building code. In addition, Montana is conducting a statewide education program to move construction practice toward the level required by the model conservation standards.

Seattle Lighting Design Lab

Designing and installing efficient lighting is an important part of building energy–efficient buildings. The Council estimates that efficient lighting could save up to 1,000 megawatts of electricity in the Northwest.

To give architects, engineers and designers the opportunity to experiment with efficient lighting systems for commercial and industrial applications, a lighting laboratory was opened this winter in Seattle, Washington. Seattle City Light is managing the lab, while 70 percent of the operating money is provided by Bonneville. The Council is a sponsor of the laboratory, along with the Washington State Energy Office, the California Energy Commission, the Northwest Conservation Act Coalition, the Natural Resources Defense Council and others.

Conservation Transfers

Another conservation innovation in the Northwest is the concept of "conservation transfers"—using energy saved in one area to meet power needs elsewhere—an idea that the Council put forth in its 1986 Power Plan.

This winter, Bonneville signed contracts with three public utility districts (Snohomish, Mason County #3 and Lewis County) to transfer their energy savings to the investor–owned utility Puget Sound Power and Light, which needs new sources of electricity.

Under these contracts, the public utilities will save a total of 6 megawatts over the next five years. Bonneville will continue to sell the same amount of power to the public utilities, but the utilities will mark up the price of the power to partially offset the cost of the conservation programs, before passing the power on—kilowatt for kilowatt—to Puget Power. ■

PUBLIC INFORMATION AND INVOLVEMENT

The Northwest Power Act mandates public education on and involvement in both fish and wildlife and power planning activities. In fact, the Act repeatedly emphasizes the need for broad public participation in all Council related issues.

> "The biggest challenge for the Council over the next 10 years will be leading the Pacific Northwest into the post–petroleum era. We must wean our fellow citizens from oil–dependency. We must see that the beginning of the 21st century finds our region with benign, renewable resources in place and providing us power."
>
> —Ted Hallock, Oregon

Public education and outreach at local levels are conducted through the Council's state offices. Council members and their staffs maintain contacts with organizations within their states, and hold meetings and briefings for groups, members of the media and private citizens. State offices distribute newsletters or regular mailings and meet routinely with their constituents to keep them informed on how Council issues affect their individual state. The Council and its staff also meet regularly with regional organizations to keep them informed about issues that may affect them.

In addition to having at least one office in each state, the Council invites public comment in a variety of forms, ranging from testimony at meetings to handwritten letters or calls on toll-free phone lines.

The Next Northwest Power Plan

In November 1990, the Council expects to distribute its new draft Northwest Power Plan for public comment. Public involvement on this plan began in 1989, when the Council chairman and staff met with representatives from groups that would be most involved in developing the new plan.

As work on the plan progressed, advisory committees guided the Council's analysis of resources and economic trends. Members of these committees were selected for their expertise and representation of major interest groups. Using the committees' work and the Council's own analysis, staff developed more than 30 discussion papers on issues related to the new plan. These papers were then distributed for public comment. The resulting comments were studied and incorporated into the planning process where appropriate.

When the draft is distributed for public review, the Council will hold hearings in each Northwest state, as well as accept written and oral comment, and meet for consultations with interested parties.

Amending the Columbia River Basin Fish and Wildlife Program

The Northwest Power Act requires the Council to invite fish and wildlife agencies and Indian tribes to submit recommendations for amending the fish and wildlife program before a "review" or "major revision" of the Northwest Power Plan. Since the plan is being revised this year, recommendations for changes to the fish and wildlife program are also being solicited. However, because of concern that too many major rulemakings could be difficult to participate in, the Council is trying to focus amendments on specific areas in the fish and wildlife program.

The Council has invited all parties, including fish and wildlife agencies, Indian tribes, utilities and others to submit recommendations for salmon and steelhead production amendments by January 15, 1991.

Wildlife

On October 11, 1989, the Council voted to include in the Columbia River Basin Fish and Wildlife Program a policy and goal for repairing hydropower–related damages to wildlife populations. This decision followed one of the Council's most extensive public involvement efforts.

After adoption of the wildlife policies, a Wildlife Advisory Committee was formed to review mitigation plans from a basinwide perspective and to make recommendations on the order in which the plans should be implemented. This committee began meeting in May.

Protected Areas Amendments

In February 1990, the Council voted to consider changes to the protected areas designations that were adopted in 1988. These designations were designed to protect from hydropower development approxi–

mately 44,000 miles of streams and rivers with important fish and/or wildlife habitat.

The designations were based on stream-reach data collected by the four Northwest states. The Council anticipated revisions to the list as data improved, and it provided an expedited process for technical corrections. That process was used to consider proposed changes. The proposals were distributed for public review; Council members and staff met with interested parties; and public comment was taken in writing and at five public hearings held throughout the Northwest.

In July, the Council adopted these changes as amendments to the fish and wildlife program and the power plan.

Subbasin Planning

This year, the region's fishery community was involved in system planning—an extensive study of more than 30 major subbasins in the Columbia River Basin to determine the status of salmon and steelhead in those areas, and to identify problems and describe opportunities to improve the local fisheries. Area experts, state and tribal fishery managers and others were involved in developing detailed plans for rebuilding salmon and steelhead runs in each subbasin.

Last summer and fall, draft plans for basins above Bonneville Dam were distributed for public scrutiny. To gather additional input, state fish and wildlife agencies held public meetings throughout the basin. In the winter, drafts of the lower basin plans were distributed for public review. This summer, the Columbia Basin Fish and Wildlife Authority submitted to the Council the draft integrated system plan for the Columbia River Basin. After additional analysis of cost-effectiveness and genetic risk, and further public review, the Council will consider adopting the plan as part of its Columbia River Basin Fish and Wildlife Program.

Conferences and Seminars

Second Salmon and Steelhead Round Table

In October 1989, an estimated 150 people listened to 25 representatives of regional fisheries agencies and organizations, tribes, utilities and other Bonneville customers, as they met for the second Salmon and Steelhead Round Table. The round table was designed to review efforts under the Columbia River Basin Fish and Wildlife Program and to provoke ideas for the future. Like other Council gatherings, the round table was open to the public. A summary of the meeting was available for those who could not attend.

Energy Conservation and Planning Conference

As a technical exchange in conjunction with the 1990 Goodwill Games, the Council invited leading energy experts from the United States and the Soviet Union to a conference on energy conservation and least-cost planning. The conference was co-sponsored by the U.S. Information Agency, the Washington Commission for the Humanities, the Natural Resources Defense Council and Seattle City Light. It was held in Seattle, Washington, in July. This conference was part of an ongoing exchange initiated by the American and Soviet academies of science. The conference was open to the public.

Other Events

The Council also co-sponsored several conferences designed to educate Northwest citizens on energy-related issues facing the region. These included the following:

- A workshop on competitive bidding on energy resources, "Pacific Northwest Supply and Demand-side Competitive Acquisition," was held in January in Portland, Oregon. It was sponsored by the Bonneville Power Administration, the Council and the four Northwest states.
- In October 1990, the Council is endorsing "Visions for a New Decade: Northwest Energy Expo '90" in Tacoma, Washington. This conference and exposition is designed to provide a view of future energy technologies.

National and Worldwide Interest

The Council's work has generated much interest from around the United States and abroad. Council members and staff have appeared before Congress, state legislative committees, public utility commissions and at several conferences in Canada and the United States to testify or present papers on the region's pioneering efforts in least-cost energy planning and fish and wildlife protection. In addition, government, utility and fishing industry representatives have visited the Council from Germany, the Soviet Union, Sweden, Tunisia, Austria, Brazil, Thailand, Canada, South Africa and Japan, in the past year.

Staff from the U.S. Department of Energy working on the National Energy Strategy and staff from British Columbia Hydro and Power Authority requested assistance from the Council this year on energy planning and the design of public information and involvement programs.

The Council also continued to expand its exchange program with the Soviet Union. In January, Jim Goller, the Council's vice chairman, addressed a conference of the International Foundation for the Survival and Development of Humanity in Moscow, Russia.

Ongoing Public Involvement Procedures

Advisory Committees and Work Groups

Several committees, made up of interested parties and experts on key issues, meet regularly to advise the Council. Each advisory committee focuses on a specific current project or issue and develops information and recommendations for the Council. When the issue is decided or the project completed, the advisory committee disbands. New committees form as new activities arise. This allows a number of people with a wide variety of expertise to advise the Council. (See Appendix B for a list of committees for the past year.) Examples of the work these advisory committees have done this year include: assembling research and demonstration agendas for wind, geothermal and solar resources; and overseeing the system planning work that is going on throughout the Columbia River Basin.

Issue and Briefing Papers

Staff papers are prepared to provide information on topical issues and to solicit comment. (See Appendix C for a list of issue and briefing papers released this year.)

Public Meetings

The Council meets monthly at locations throughout the Northwest. These meetings, along with the Council's monthly working sessions, are open to the public. Representatives from diverse groups frequently are invited to discuss their viewpoints before the Council at these meetings.

Consultations

To generate a two–way flow of information, the Council and its staff held numerous consultations with interested parties throughout the year.

Organization Meetings

Council members and staff frequently attend meetings held by other organizations. These range from annual meetings of utility organizations to weekly meetings of public service clubs.

Mailing List and Direct Mailings

The Council maintains a mailing list that has grown to more than 25,000 names. This list was revised this year to allow for targeted direct mailings and to delete those people who no longer desire to receive information from the Council.

Magazine

The bimonthly magazine, *Northwest Energy News*, carries feature stories about issues relevant to the Council's work in easy–to–read, non–technical language. The circulation has grown to more than 22,000.

Newsletter

A monthly newsletter, *Update*, carries news of current events, notice and agendas of Council and advisory committee meetings, notice of rulemakings, deadlines and instructions for comment, and a list of available publications. Its circulation is more than 17,000.

Backgrounders and Fact Sheets

The Council publishes short, non–technical summaries of all major issues. Additional fact sheets provide expanded information on key issues.

Media Information

Comprehensive packets including meeting agendas are sent to members of the media in the vicinity of each Council meeting. Meeting agendas and media releases also are mailed to a broader list of Northwest media representatives. Media briefings are held regularly to discuss topical issues with reporting and editorial staffs of newspapers, radio and television stations.

Slide Shows

The public information and involvement staff produces full–color, graphic slides or overheads for Council meetings and many other presentations.

Public Library

The Council maintains a public information library at its central office. The library's collection includes Council documents, general reference materials and periodicals on fish, wildlife and power issues.

Films

The Council has two films explaining its power planning strategies and the region's efforts to rebuild fish and wildlife populations. (The fish and wildlife film, *Journey of the Kings*, is currently being updated.) Copies have been given free of charge to libraries, schools and agencies. Other individuals or groups may borrow the films or video tapes on request.

Toll-free Telephone Lines

Toll-free lines are maintained to give citizens in all four Northwest states easy telephone access to the Council and to make it easy for them to order Council publications. ■

How the Council Deals with Issues

Month (approximate)	1	2	3	4	5	6	7
Advisory groups begin early discussions of the issue. Interested parties are invited to consultations. Council members have preliminary discussions in informal committee meetings.	↔						
Staff develops materials that are distributed to key technical people for a preliminary review.		↔					
The issue is discussed by the Council in working sessions, which are open to the public.[1]		1					
Staff presents the issue at a Council working session and circulates an issue paper for public review.[2]			2				
Pre-rulemaking comment period, lasting 30 to 90 days depending on the issue. The Council accepts written comment during the entire period and oral testimony at a formal meeting. Consultations with key groups go on throughout the comment period.[3]			←	3	→		
At a formal Council meeting, the Council may vote to enter rulemaking. If it does, it authorizes release of the proposed amendment for additional public comment.[4]					4		
Public comment on the rulemaking also is taken for 30 to 90 days, depending on the issue. The Council accepts written comment during the entire comment period. Formal hearings are held in each Northwest state (sometimes in connection with the monthly Council meeting). Consultations with key interest groups also go on throughout the comment period.[5]					←	5	→
At another formal Council meeting, the Council may vote to adopt the proposal and amend its power plan or fish and wildlife program accordingly.[6]							6

CONGRESSIONAL ACTIVITIES

In addition to serving the four Northwest states, the Council is an information resource for the U.S. Congress. In that capacity, the Council testifies before Congress on power and fish and wildlife issues in the Northwest, and responds less formally to requests for information from congressional offices and committees. The Council also monitors congressional activities that potentially affect the Council's responsibilities.

Fish and Wildlife Issues

The Council testified on budget requests of four federal agencies that are responsible for implementing parts of the Columbia River Basin Fish and Wildlife Program. In March, the Council testified before the Energy and Water Development Subcommittees of the House and Senate Committees on Appropriations regarding the budgets of the U.S. Army Corps of Engineers, the Bureau of Reclamation and the Bonneville Power Administration. The Council also submitted testimony to the Commerce, Justice and State Subcommittees on Appropriations in the House and Senate regarding the budget of the National Marine Fisheries Service.

U.S. Army Corps of Engineers' Budget

The Council's testimony focused primarily on the Corps of Engineers' budget and spending on new and improved fish bypass screens and related facilities at the Corps' Columbia and Snake river dams. These facilities will divert from turbines young salmon and steelhead migrating to the ocean and reduce fish deaths at the dams by roughly 50 percent.

The Corps has not included enough money for bypass facilities in its last five budget requests. Consequently, in each of those years, Congress added funds for the fish bypass program to the federal budget. The strong and consistent support of Congress kept the program alive over that five-year period, adding nearly $30 million for new and improved bypass facilities at six mainstem dams. These funds are being used for new fish barges, expanded moorage facilities, and new fish loading and holding facilities for the Corps' fish transportation effort; development and testing of longer turbine screens; and for the start of construction on a new bypass system at Lower Monumental Dam, which has no fish bypass facilities.

Congress also provided funds for the design and development of new bypass facilities at Ice Harbor and The Dalles dams.

In 1990, for the first time in recent history, the administration budget request to Congress for 1991 includes funding for some of the modifications needed at the mainstem dams. The 1991 budget includes $14.8 million to continue construction of bypass facilities at four mainstem dams—Lower Granite, Little Goose, Lower Monumental and McNary. This budget request, however, would not fund continued design, testing and construction of new bypass systems at the other two federal dams—Ice Harbor and The Dalles. Instead, the budget proposes to terminate activities at these projects for at least two years, during the development of a $2-million mitigation study.

Rather than stopping key activities during the study, the Council proposed that a total of up to $5 million should be added by Congress to continue work at these two projects. The Council's testimony urged Congress to add these funds and to include the same kind of clear direction in the appropriations process as provided in previous years in order to ensure obligation of funds for these vital activities.

In separate actions, the House approved a total of $17.5 million for the fish bypass program, and the Senate agreed to $18.5 million. Although the final version of the legislation was not enacted at publication time, it is clear that funds and detailed instructions will be provided by Congress for continuation without delay of this important effort, including additional funds for bypass activities at Ice Harbor and The Dalles dams.

> "We will have to carefully consider the growing power requirements of our region and use our common sense to strike a balance between these human economic necessities and the well–being of our fish and wildlife resources."
>
> —John C. Brenden, Montana

National Marine Fisheries Service's Budget

In testimony before Congress, the Council also opposed budget cut proposals affecting the National Marine Fisheries Service's operations budget for 25 hatcheries in the Columbia River Basin. The Council noted that these hatcheries account for more than half the basin's salmon and steelhead production, annually releasing 100 million juvenile salmon and steelhead into the Columbia system.

U.S. Bureau of Reclamation's Budget

On the Bureau of Reclamation's budget, the Council reaffirmed its commitment to the Yakima River Basin as a priority for fish enhancement projects in the Columbia River Basin. The Council testified in support of the budget request, which will continue construction of Yakima fish passage facilities and continue Yakima water enhancement project studies.

On the other hand, the Bureau requested no funds in its 1991 budget to construct the recently authorized Umatilla Basin Project. The Council indicated support for additional funds to begin construction on the project. In addition, the Council asked Congress to allocate some $25,000 within the Bureau's budget to operate and maintain pumps that would continue to augment needed flows for fisheries in the Umatilla River Basin. Congress later added $7 million to the Bureau budget request to start construction on this fishery restoration project, including support for interim water pumping to improve flows.

Other Legislative Issues

The Council has followed closely the development of legislation to authorize and fund water resource projects in the Northwest. The Council testified before the Senate Committee on Energy and Natural Resources in support of a bill, which was later enacted, to authorize construction of the Umatilla Basin Project. In addition, the Council has been active in discussions on legislative proposals to promote a comprehensive program for the heavily used water resources in the Yakima River Basin.

The Council also provided Congress with formal comments on the impacts of proposed expansion of the Columbia Basin Project and on the importance of water temperature control devices that would improve fish survival below a number of Willamette River Basin projects.

In later action, the House approved funds for more analysis of the fisheries impacts that would occur as a result of the proposed expansion of the Columbia Basin Project. Separately, the Senate added funds to expedite the review and evaluation of installing temperature control devices at Blue River and Cougar dams in the Willamette Basin in Oregon.

The Council has worked closely with Congress in its efforts to ban drift–net fishing on the high seas. On several occasions, the Council provided information to Congress about the potential impacts of drift–net fishing on our efforts to rebuild salmon and steelhead runs in the Pacific Northwest. The latest information and recommendations from fish harvest managers in the Northwest were forwarded to members of Congress and committees with jurisdiction over this issue.

Power Issues

Bonneville Power Administration's Budget

In 1990, the Council also testified before the Energy and Water Development Subcommittees of the House and Senate Appropriations Committees on the Bonneville Power Administration's proposed budget.

The Council strongly opposed the provision in the budget proposal that called for changes in repayment policy. The budget submission included a proposal to alter Bonneville's approach to repaying its debt for construction of the region's hydropower system. Bonneville's repayment would be accelerated, and the interest rates on unpaid debt would be allowed to vary from year to year. Under the proposal, Bonneville estimated that the wholesale rates could be 40-percent higher than current rates. The Council testified that a rate increase of this magnitude would damage severely the economy of the Northwest. Congress was urged to drop this short-sighted proposal from the budget.

Council testimony also supported higher borrowing authority and funding levels that would allow Bonneville to continue to develop conservation resources in all sectors of the region's economy. Such an effort would help ensure that all cost-effective conservation resources would be available when needed by the region to offset the need for more expensive generating resources.

The 1991 budget proposes to cut by 60 percent the capital portion of Bonneville's conservation program. These conservation investments, which are funded through Treasury borrowing, are proposed to be funded as an expense and only if current revenues are available. This proposal could result in a substantial reduction in conservation investments during a period when the Council and Bonneville agree that conservation spending must be increased. The Council testified that borrowing authority must be restored if conservation is to be acquired as a resource in accordance with the Pacific Northwest Power Planning and Conservation Act. Congress later restored the capital portion of Bonneville's conservation program for 1991.

Because full-scale conservation programs require careful planning, the Council also is concerned about the projected budget levels for these activities. During the 1989 appropriations process, Congress expressed similar concerns and directed Bonneville to increase its support for conservation efforts. Accordingly, the Council has worked with Bonneville on a long-term plan that provides enhanced support for and commitment to energy-efficiency activities in the commercial and industrial sectors. In the 1991 budget, Congress agreed with Bonneville's enhanced conservation efforts and included additional authority for funds to ensure adequate resources to achieve its objectives.

Other Legislative Issues

Throughout the year, staff has provided information and status reports to Congress on the Council's progress in developing a new power plan for the region. Several specific power issues that could have regional impacts have been under congressional review. The Council supported legislation to extend hydropower licenses for the Cowlitz Falls project in Washington state. Information was requested and provided to Congress on the Council's least-cost planning process, on amendments to the Clean Air Act, on the federal tax treatment of conservation activities, and on geothermal development activities in the region. In addition, the Council has urged Congress to push the Department of Housing and Urban Development to issue regulations strengthening energy-efficiency standards for manufactured housing.

During the year, the Council responded to requests from and provided background information to congressional offices. For example, in response to congressional interest in a regional viewpoint, the Council provided information on appliance efficiency standards and the implications of global warming for power planning. The Council's assistance also included providing general publications, including issue papers, background material and power plan proposals. ■

LEGAL

With a new power plan under way, and with major fish and wildlife issues, such as the endangered species status of certain stocks of salmon, the Council's regionwide perspective is proving to be uniquely valuable. In each of its decisions, the Council strives to take into consideration both the need for an economical and reliable power system and the adequate protection and enhancement of the region's fish and wildlife resources. Striking the appropriate balance is a challenging process that benefits most from the participation and cooperation of all of the interests affected by such decisions. The Council continues to seek cooperative resolution of issues through public discussions and informal negotiations.

> "The challenges will be to maintain a diverse array of resource opportunities to meet the needs of the region, and to obtain the necessary cooperation to ensure reasonable resource development."
>
> —Stan Grace, Montana

Litigation

Last fall, Bonneville's Long-Term Intertie Access Policy was challenged in the U.S. Court of Appeals for the Ninth Circuit in a case entitled California Energy Commission v. BPA. On July 26, 1990, the Court issued an opinion rejecting the challenge and upholding the policy in all respects.

In its Long-Term Intertie Access Policy, Bonneville adopted provisions intended to discourage utilities from owning or acquiring the output from hydroelectric projects located in areas designated by the Council as protected. One of the parties in the case challenged Bonneville's authority to impose such restrictions.

The Council intervened in the litigation, supporting Bonneville's authority to protect fish and wildlife by restricting intertie access. In its opinion, the Court specifically upheld this authority.

Rulemakings

From October 1989 through September 1990, the Council conducted only three rulemakings, adopting or concluding amendments to its fish and wildlife program. While this is an unusually small number of rulemakings, the total belies other activity related to major revisions of the power plan and fish and wildlife program, which are described more fully in the public information and involvement section.

In chronological order of decision, the three rulemakings concluded by the Council during the past year are:

Wildlife Mitigation Rule

In October 1989, the Council amended the fish and wildlife program to establish a comprehensive policy for wildlife mitigation at federally operated hydroelectric projects in the Columbia River Basin. Using as a starting point the wildlife habitat losses identified by fish and wildlife agencies, the amendment sets an interim goal for wildlife mitigation over the next 10 years. The rule also establishes a process to develop wildlife mitigation priorities and sets standards for the projects that will be funded.

Fish and Wildlife Program Amendment Schedule

In February 1990, the Council established a schedule for the submission of proposed amendments to the fish and wildlife program. Under the Northwest Power Act, the Council is required to call for such amendments prior to any major revision of the power plan. The adoption of this schedule rendered obsolete a rule the Council had proposed in 1988 regarding the circumstances in which a power plan amendment would trigger fish and wildlife program amendments. The rulemaking was therefore terminated without further action.

Protected Areas Revisions

In July 1990, the Council amended its fish and wildlife program and the power plan to incorporate various revisions to the protected areas designations. Protected areas are critical fish and wildlife habitat where the development of a hydroelectric project would pose an unacceptable risk of loss to such habitat. Based on new information about the Northwest's river reaches, the revisions add about 560 miles of river reaches to those already protected and delete about an equal number of river miles from those protected, resulting in no significant change in the total number of river miles in protected status.

In addition, the revisions considered a number of specific requests for exemption or exception of particular hydroelectric projects. The Council approved 10 requests, denied four requests and deferred action on four requests, pending further information. Most of these projects were under way before the Council adopted its protected areas rule in 1988.

Other Topics of Importance

One of the most challenging legal and biological issues faced by the Council is the status of certain stocks of sockeye, chinook and coho salmon in the Columbia Basin. Five endangered species petitions have been filed with the National Marine Fisheries Service, seeking protection and the development of a recovery plan for these stocks.

The Council is monitoring this process closely and will be offering information and assistance as appropriate. By developing a comprehensive, basinwide understanding of the status of individual stocks, the relationships among them, the available habitat, and the opportunities available for additional mitigation and enhancement, the Council's system planning process is likely to provide a valuable planning and reference point for consideration of the stocks at issue.

Government in the Sunshine Act

Section 4(a)(4) of the Northwest Power Act provides that the Council is subject, to the extent appropriate, to federal laws that apply to the Federal Energy Regulatory Commission with respect to open meetings. In general, these laws provide that when a quorum of the Council (five or more members) is present its deliberations must take place in public, unless closed under one of the exceptions set forth in the Sunshine Act.

In the spring and summer of 1990, the Council examined the format of its meetings, how they are conducted, and the manner in which the Council receives information from the public and presents information to the public. To improve the effectiveness of its meetings, the Council restructured them into three types:

1. Formal Council Meetings: At these meetings, the Council will make its formal decisions, finalize and vote on rulemakings, debate issues and generally conduct its public business and matters of public record.

2. Working Sessions: These are meetings at which the Council will do its work preparatory to the final and formal decision-making session. Staff will make initial presentations of issue papers and analysis. The Council will engage in informative debate; discuss substantive issues with staff; give direction to staff on work products and priorities; consult with interest groups and individuals; receive comments and reports from the public; receive committee reports; and discuss and make preliminary decisions on monitoring, implementation and oversight functions.

3. Committee Meetings: The Power Planning Committee, Fish and Wildlife Committee and Executive Committee monitor staff work, provide staff direction and feedback, explore new ideas, prepare strategic and work plans for full Council review, and suggest items that should be scheduled for Council meetings. In addition, these committees will consult with groups and individuals, both privately (to gain information not otherwise available) and publicly. The committees are not permitted to deliberate or decide issues for the Council.

Formal Council meetings and working sessions are open to the public, unless closed under one of the Sunshine Act exceptions. Public notice, including an agenda, is published for each of these meetings. Committee meetings are ordinarily informal working sessions with no preset agenda and less than a quorum (four or fewer) of Council members present. Under the Sunshine Act, such committee meetings are not considered to be meetings of the Council and are not required to be open to the public. However, when public testimony is taken or public consultations are arranged, the committee meetings are noticed pursuant to the Sunshine Act and are open to the public.

The following summary is supplied to Congress in compliance with the open meetings policy of the Council and Section 4(g) of the Government in the Sunshine Act. Between September 1, 1989, and August 30, 1990, the Council conducted 12 formal meetings, approximately six working sessions and approximately 22 meetings of its power and fish and wildlife committees. Portions of the following meetings (see box), at which a quorum of Council members was present, were closed pursuant to one or more of the Sunshine Act exceptions.

Portions of these Meetings were Closed Under the Sunshine Act

September 13–14, 1989 Coeur d'Alene, Idaho	internal personnel matters
October 11–12, 1989 Spokane, Washington	internal personnel matters; civil litigation
November 8–9, 1989 Helena, Montana	internal personnel matters; civil litigation
December 12, 1989 Portland, Oregon	premature disclosure
February 21, 1990 Seattle, Washington	civil litigation; proprietary information
March 15, 1990 Missoula, Montana	internal personnel matters; premature disclosure
April 12, 1990 Eugene, Oregon	premature disclosure
April 25, 1990 Portland, Oregon	premature disclosure
May 9, 1990 Idaho Falls, Idaho	internal personnel matters
May 31–June 1, 1990 Spokane, Washington	non-deliberative
June 12–13, 1990 Spokane, Washington	internal personnel matters; premature disclosure
July 11–12, 1990 Kalispell, Montana	internal personnel matters; premature disclosure
August 8–9, 1990 Portland, Oregon	internal personnel matters; premature disclosure

ADMINISTRATION

The Council's central staff of 44 people is located in Portland, Oregon. The staff evaluates energy and fish and wildlife matters that come before the Council. In addition, the central office staff supports the Council's public information and involvement efforts, assists its involvement in congressional issues and provides legal and administrative services. The Council also maintains offices in each of the four Northwest states. Council members are supported by state staff in power planning, fish and wildlife, and public information and involvement activities.

For further assistance, the Council relies on public agencies and Indian tribes under intergovernmental agreements. It also uses consultants under contract on a limited basis. The Council additionally turns to advisory committees for help on certain aspects of the Northwest Power Plan and the Columbia River Basin Fish and Wildlife Program.

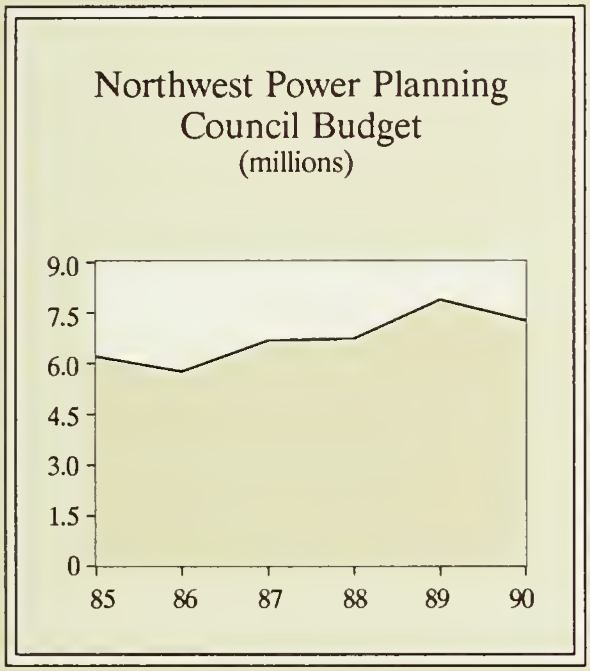
Budget

During Fiscal Year 1990, the Council moved forward on the draft 1990 Power Plan, monitored implementation of the Columbia River Basin Fish and Wildlife Program and continued the salmon and steelhead production planning effort, initiated in 1987, for 31 subbasins in the Columbia River system. The Council expects to underspend its budget of $7,245,000 by approximately $100,000.

The largest expenditure categories in Fiscal Year 1990 were for the operations of the central and state staffs supporting the Council members and for fish and wildlife planning contracts. (The Fiscal Year 1989 Annual Audit is reproduced in Appendix E and is available on request from the Council's central office.)

In August 1990, the Council will present to the Bonneville Power Administration its Fiscal Year 1992 and revised Fiscal Year 1991 budgets. The Council's budget for Fiscal Year 1991 is $7,616,000.

Budget projections assume continuing efforts to monitor the implementation of both the fish and wildlife program and the power plan, and possible amendments to either, as new information from the implementation activities is evaluated. The budget was made available for public review and comment, and is expected to be submitted to Congress by the president early in 1991, as part of Bonneville's budget submittal. Copies of the Council's budget are available on request. ∷



> "The region needs to stay the course on the goal of doubling salmon and steelhead runs in the Columbia River Basin. In the short term, the nay–sayers of the region will find out what a valuable tool the Council's fish and wildlife program can be in solving any possible endangered species listings."
>
> —Bob Saxvik, Idaho

COUNCIL MEMBER BIOGRAPHIES

R. Ted Bottiger
(Washington, appointed 1987)

Bottiger was the majority leader in the Washington State Senate from 1983 to 1987 and the minority leader from 1981 to 1982. Prior to that, he was the chairman of the Senate's Energy and Utilities Committee. He represented southern Pierce County and northeastern Thurston County in both the Senate (from 1973 to 1987) and in the House of Representatives (from 1965 to 1972). Bottiger is an attorney and a partner in the Tacoma firm of Counsell, Murphy and Bottiger.

John Brenden
(Montana, appointed 1989)

Brenden was the co–chairman of Stan Stephens' successful campaign for governor in 1988. He also chaired Governor Stephens' transition team after the election. Brenden was the Montana Republican Party chairman from 1983 through 1987 and served as the finance chairman for Congressman Ron Marlenee's campaign in 1976. Brenden and his wife operate a wheat ranch in Scobey, Montana, and have real estate interests in the Flathead Valley. They own a home at Ashley Lake, west of Kalispell.

Angus Duncan
(Oregon, appointed 1990)

Duncan was corporate development director of District Utility Services Company, a PacifiCorp subsidiary that provides utility and energy management services to university and business campuses and urban centers. Prior to joining PacifiCorp, he held executive positions in two companies involved with wind energy. Duncan was director of energy policy for the U.S. Department of Transportation from 1979 to 1981. He was administrative assistant for policy to then–Mayor Neil Goldschmidt of Portland, Oregon, from 1975 to 1979. He represented the city in the drafting of the Northwest Power Act.

James Goller
(Idaho, vice chairman, appointed 1987)

Goller spent six years as chief of staff for Idaho's Senator James McClure, prior to being appointed to the Council. In 1966, he managed McClure's first campaign for U.S. representative for Idaho's 1st Congressional District and was a member of McClure's staff until his appointment to the Council. As chief of staff, Goller managed McClure's Idaho offices and supervised the senator's Washington, D.C., staff, including staff members of the U.S. Senate Committee on Energy and Natural Resources and the U.S. Senate Committee on Appropriations.

Stan Grace
(Montana, appointed 1989)

Grace was the logging manager at Stoltze–Conner Lumber Company in Darby, Montana, for almost 15 years. Prior to 1972, he managed the Madison Fork Guest Ranch near Yellowstone National Park. Grace was a trustee of the Ravalli County Electric Cooperative Inc., from 1983 through 1988, and has served as an officer with various hunting and fishing groups.

Ted Hallock
(Oregon, appointed 1988)

Hallock was an Oregon state senator from 1963 to 1983. During this period, he served as Senate majority leader and as chairman of the Senate committees on energy and the environment, land-use, human resources and housing. Hallock's legis-

lative activities focused on statewide land-use planning, environmental quality, tax reform and health care. He co-authored Oregon's innovative 1973 land use bill. In addition, Hallock has operated a public relations firm in Portland since 1959.

Robert W. Saxvik
(Idaho, appointed 1981)

Saxvik was chief of staff for Idaho Governor John Evans, and vice president and general manager of KBAR radio in Burley, Idaho. Saxvik served three terms in the Idaho State Senate, where he was assistant Senate minority leader. He was legislative liaison to the governor from 1977 to 1978 and director of the Office of Aging in 1978. Saxvik was chairman of the Council in 1985 and 1986 and vice chairman in 1981, 1982 and 1984.

Tom Trulove
(Washington, chairman, appointed 1986)

Trulove has been a professor of economics at Eastern Washington University since 1969 and is currently taking a leave of absence. He was mayor of the City of Cheney from 1978 to 1985. Active in the Association of Washington Cities, he served as a member of several of its committees and was president of the Association from 1984 to 1985. During development of the 1983 Power Plan, he was vice chairman of the Council's Forecasting Advisory Committee. ■

List of Appendices

Below is a list of appendices referenced in this annual report. To obtain them, contact the Council's Public Information and Involvement Division, 851 S.W. Sixth Avenue, Suite 1100, Portland, Oregon 97204–1348. Telephone: 503–222–5161 or toll free 1–800–222–3355 from Idaho, Montana and Washington, and 1–800–452–2324 in Oregon.

Appendix A	Agendas of Council Meetings
Appendix B	Advisory Committees
Appendix C	Documents Made Available to the Public in Fiscal Year 1990
Appendix D	Selected Newspaper and Magazine Articles About the Council
Appendix E	Fiscal Year 1989 Annual Audit
Appendix F	Comments on the Draft Tenth Annual Report

The Pacific Northwest Electric Power and Conservation Planning Council is an interstate compact formed by Idaho, Montana, Oregon and Washington after authorization by the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Public Law 96–501). Each Northwest governor appoints two members to serve on the Council.

The Act charged the Council with three mandates:

1. Develop a 20–year electric power plan that will guarantee adequate and reliable energy at the lowest cost to the Northwest.
2. Develop a program to protect and rebuild fish and wildlife populations in the Columbia River Basin that have been affected by hydroelectric development.
3. Conduct an extensive program to involve the public in the Council's decision–making processes.

The chief agencies that implement the Council's power plan and fish and wildlife program are the Bonneville Power Administration, the U.S. Army Corps of Engineers, the U.S. Bureau of Reclamation and the Federal Energy Regulatory Commission. The Council also works with utilities, environmental groups, state and local governments, fish and wildlife agencies, Indian tribes and others involved in energy, and fish and wildlife issues. The Council is funded out of electricity revenues collected by the Bonneville Power Administration, a federal agency that markets power produced in the Pacific Northwest.

This annual report has been developed pursuant to Section 4(h)(12)(A) of the Act. While the Act requires only a report of the Council's fish and wildlife activities, the Council has elected to include its power planning, public information and involvement, congressional, legal and administrative activities as well.

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